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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,330	07/31/2003	Walter Demel	873-011428-US(PAR)	9907
2512	7590	03/15/2005	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			TALBOT, MICHAEL	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,330

Applicant(s)

DEMEL ET AL.

Examiner

Michael W Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation "80 to 160 micrometers", and the claim also recites "100 to 140 micrometers" which is the narrower statement of the range/limitation. Also claim 3 recites the broad recitation "30 to 70 micrometers", and the claim also recites "40 to 60 micrometers" which is the narrower statement of the range/limitation. And finally, claim 4 recites the broad recitation "40 to 100 millimeters", and the claim also recites "60 to 80 millimeters" which is the narrower statement of the range/limitation.

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Regarding claims 2-5, the phrases "particularly preferably" and "preferably" render the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2149697. GB 2149697 shows in Figures 1 and 5-7 a device (1) for fixing a thin and/or flexible substrate on its bearing surface (3) having notches/holes (7) in communication with each other by microgrooves (13) and connected with a vacuum device (17). GB 2149697 further shows the depth of the microgrooves being 50 microns (page 1, lines 102-108) when measured from the peak (11) to the valley floor (13).

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama et al. '012. Aoyama et al. '012 shows in Figures 3 and 4 a device (PWH) for fixing a thin and/or flexible substrate (W) on its bearing surface (25) having notches/holes (29) in communication with each other by microgrooves (valley surface between pin projections 25) and connected with a vacuum device (col. 6, lines 6-12). Aoyama et al. '012 further shows the depth of the microgrooves being 0.01 to 0.5 mm (10 to 500 micrometers).

Claims 1,9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama et al. '012. Aoyama et al. '012 shows in Figures 1 and 2 a device (WH) for fixing a thin and/or flexible substrate (W) on its bearing surface having notches/holes (3) in communication with each other by microgrooves (2) and connected with a vacuum device (col. 6, lines 6-12).

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Aoyama et al. '012 further shows that the device is made of an aluminum compound (col. 5, lines 55-59) and that the device is made of a high hardness value (col. 6, lines 18-23).

Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ono et al. '267. Ono et al. '267 shows in Figures 2-4 a device (4) for fixing a thin and/or flexible substrate on its bearing surface having notches/holes (8a-8g) in communication with each other by microgrooves (6a-6g) and connected with a vacuum device (col. 2, lines 62-66). Ono et al. '267 further shows that the device can be adjusted to receive a range of wafer diameters from 2 inches to 5 inches (col. 2, lines 39-50).

Claims 1,8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Montoya '676. Montoya '676 shows in Figures 4 and 5 a device (38) for fixing a thin and/or flexible substrate on its bearing surface (40) having notches/holes (60,66) in communication with each other by microgrooves (58,64) and connected with a vacuum device (53). Montoya '676 further shows that the device has two separate vacuum regions (56,62) that can be activated separately or together and that the device is made of aluminum (col. 5, lines 44-47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2149697 in view of Kobayashi et al. '594. GB 2149697 discloses the claimed invention except for the specified width of the microgrooves. Kobayashi et al. '594 shows in Figures 1-3 that the width of the grooves (2a-2c) may be from 5 to 2000 micrometers (col. 3, lines 16-18). In view of this teaching of Kobayashi et al. '594, it is considered to have been obvious to modify the

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microgroove construction of GB 2149697 to include the groove width of Kobayashi et al. '594 to eliminate the effect of the shape of the microgroove being transferred onto the wafer. Also note that the same combination could have been made with the other 102b references above, but was not done in the interest of limiting redundancy.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. '267. Ono et al. '267 discloses the claimed invention except for the specified radii of the microgrooves and the specified distance between the microgrooves. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to position concentric microgrooves in relation to the size of the wafer to maximize the utility of the device by handling varying wafer diameters and to optimize the vacuum holding force on the wafer, since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Allen, 105 USPQ 233. Also note that the same combination could have been made with the other 102b references above, but was not done in the interest of limiting redundancy.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2149697 in view of Masumura et al. '957. GB 2149697 discloses the claimed invention except for the specified hard coating applied to the bearing surface of the device. Masumura et al. '957 shows in Figures 1a and 2a that a surface coating (3) can be applied to the bearing surface of the device to provide a hard coating surface (col. 7, lines 54-60). In view of this teaching of Masumura et al. '957, it is considered to have been obvious to apply the hard surface coating of Masumura et al. '957 to the bearing surface of GB 2149697 to provide the desired surface characteristics such as hardness, mechanical strength, etc. Also note that the same combination could have been made with the other 102b references above, but was not done in the interest of limiting redundancy.

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Allowable Subject Matter

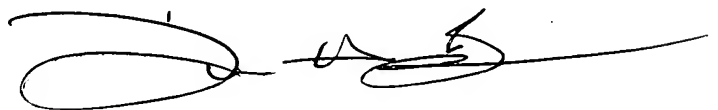
4. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mr. Derris Banks, may be reached at 571-272-4419.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 703-872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.



Michael W. Talbot
Examiner
Art Unit 3722



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